

REMARKS

Claims 1-12 are pending in the application and have been examined. Claims 1-12 stand rejected. Claims 1-6 and 10 have been amended. No new matter has been added. Reconsideration and allowance of Claims 1-12 is respectfully requested.

The Rejection of Claims Under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected Claims 1-5 under 35 U.S.C. § 112, second paragraph as indefinite for reciting a use without any active steps delimiting how this use is actually practiced. Claim 1, from which Claims 2-5 depend, has been amended to include the step of incorporating the recited oil into a food product or a cosmetic product. Withdrawal of this ground of rejection is respectfully requested.

The Examiner has rejected Claims 1-12 under 35 U.S.C. § 112, second paragraph as indefinite for reciting the trademark/trade name "TAG" and "sn." Applicants respectfully submit that neither "TAG" nor "sn" is a trademark or trade name. "TAG" refers to triacylglycerol as described on page 1, lines 7-8 of the specification. The prefix "sn" refers to the stereospecific numbering system for glycerol. According to the 1976 Recommendations for The Nomenclature of Lipids, IUPAC-IUB Commission on Biochemical Nomenclature (enclosed as Attachment A), carbon atoms of glycerol are numbered stereospecifically. To differentiate such numbering from conventional numbering conveying no steric information, the prefix "sn" is used. Applicants have amended Claims 1, 6, and 10, from which Claims 2-5, 7-9, and 11 and 12 depend, to clarify that "TAG" refers to triacylglycerol and "sn" refers to a stereospecifically numbered position in triacylglycerol. Withdrawal of this ground of rejection is respectfully requested.

The Rejection of Claims for Nonstatutory Double Patenting

The Examiner has rejected Claims 6-12 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-6 of U.S. Patent No.

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

6,388,113 and over Claims 1, 4, 7, and 11 of U.S. Patent No. 6,348,610. A terminal disclaimer will be filed upon notification of allowable subject matter. Applicants respectfully request these grounds of rejection be held in abeyance pending resolution of the remaining issues.

The Rejection of Claims Under 35 U.S.C. § 103(a)

The Examiner rejected Claims 1-12 under 35 U.S.C. § 103(a) as obvious over WO 95/20313 (Osorio et al.) over Alvarez-Ortega et al. (1997) *Lipids* 32(8):833-7. According to the Examiner, Osorio et al. discloses a sunflower oil comprising between 3-85% oleic acid and 10-19%, 19.1-35%, or 29-54% stearic acid. Also according to the Examiner, Alvarez-Ortega et al. discloses that the amounts of the saturated fatty acid in position 2 of triacylglycerol of the sunflower mutants described in Osorio et al. are less than 10%. The Examiner therefore argues that it would have been obvious to use sunflower oil compositions comprising more than 40% oleic acid and more than 12% stearic acid, wherein a maximum of 10% of the fatty acid groups are in the sn-2 position of triacylglycerol, in a food product or a cosmetic product. Applicants respectfully disagree.

Applicants submit that the Examiner has failed to establish a prima facie case of obviousness. There are three requirements for establishing a prima facie case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Third, the prior art reference must teach or suggest all the claim limitations.

It was previously shown that by treating seeds with a mutagenic agent, sunflower lines with seeds containing oil with an increased stearic acid content could be established, for example lines CAS-3 and CAS-4 (U.S. Patent No. 6,486,336 and U.S. Patent No. 6,486,336). It was originally thought that by crossing sunflower lines containing oil with high stearic acid content

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

with lines containing oil with high oleic acid content would result in an inbred line with both high oleic acid and high stearic acid content, but this proved extremely difficult (U.S. Patent No. 6,388,133, col. 8, lines 54-61). For example, it was found that selection for lines with high oleic acid content generally selects against traits that would result in high stearic acid content (U.S. Patent No. 6,388,133, col. 8, lines 62-64, col. 10, lines 30-35). The present invention is based on the surprising finding that crossing a sunflower line with a high stearic acid content, such as CAS-3 or CAS-4, with a sunflower line with a high oleic acid content and high thioesterase activity results in seeds containing an oil having both a high stearic acid content (such as more than 40%) and a high oleic acid content (such as more than 12%), in which a maximum of 10% of the fatty groups in the sn-2 position of triacylglycerol molecules are saturated fatty acid groups (Specification, page 6, lines 23-33). Applicants submit that there is no suggestion or motivation, either in Osorio et al. or in Alvarez-Ortega et al., or in knowledge generally available to one of ordinary skill in the art, to prepare a food or cosmetic product comprising an oil having an oleic acid content of more than 40% and a stearic acid content of more than 12%, and in which a maximum of 10% of the fatty acids in the sn-2 position of the triacylglycerol molecules are saturated. The percentages of fatty acids in the oil of the sunflower mutants described in Osorio et al. and characterized in Alvarez-Ortega et al. are 26% stearic acid and 13.8% oleic acid for CAS-3 and 16.1% stearic acid and 24.3% oleic acid for CAS-4 (Osorio et al., page 9, lines 31-32; Specification, page 20, lines 20-21). Thus, Osorio et al. does not teach or suggest an oil containing more than 40% oleic acid and more than 12% stearic acid, as recited in Claims 1-12. Similarly, Alvarez-Ortega et al. does not teach or suggest an oil having both a high stearic acid content and a high oleic acid content. For these reasons, applicants respectfully request withdrawal of this ground of rejection.

CONCLUSION

In view of the foregoing amendments and remarks, Claims 1-12 are believed to be in condition for allowance. If any issues remain that can be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at 206.695.1783.

Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON KINDNESS^{PLLC}



Karen Blöchlinger, Ph.D.
Registration No. 41,395
Direct Dial No. 206.695.1783

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Carol Julian

KBB:cj

LAW OFFICES OF
CHRISTENSEN O'CONNOR JOHNSON KINDNESS^{PLLC}
1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100